

I Claim:

1. A communication protocol comprising segmenting digital data into segments in a first application layer; packetizing said segments in a first internet protocol layer; reassembling said packets in a second internet protocol layer; and reassembling said segments in a second application layer.

2. The communication protocol according to Claim 1, further comprising testing said packets for errors; and changing a size of said segments in response to said packet testing.

3. The communication protocol according to Claim 2, wherein said segment size is increased if said packet testing detects no packet errors in said digital data and said segment size is decreased if said packet testing detects a packet error in said digital data.

4. The communication protocol according to Claim 2, wherein said segment size is changed between a low limit and a high limit.

5. The communication protocol according to Claim 4, wherein said segment size is not changed if said packet testing detects no packet errors in said digital data and said segment size is at said high limit; said segment size is increased if said packet testing detects no packet errors in said digital data and said segment size is not at said high limit; said segment size is not changed if said packet testing detects a packet error in said digital data and said segment size is at said low limit; and said segment size is decreased if said packet testing detects a packet error in said digital data and said segment size is not at said low limit.

6. The communication protocol according to Claim 1, in combination with transmitting and receiving said packets over a wireless link between said packetizing and said packet reassembling.

7. The communication protocol according to Claim 1, further comprising testing said packets for errors; and retransmitting only said

segments having packet errors without retransmitting said segments having no packet errors.

5           8.     The communication protocol according to Claim 1, further comprising testing said packets for errors; and retransmitting at least one of said segments in response to said packet testing from said first application layer without retransmitting from said first internet protocol layer.

          9.     The communication protocol according to Claim 1, wherein said internet protocol layer is a user datagram protocol.

10           10.    The communication protocol according to Claim 1, in combination with generating said digital data in a live mobile camera system, said digital data being a digitized picture of the visual surroundings around a mobile client.

15           11.    The communication protocol according to Claim 1, further comprising testing said packets for errors; changing a size of said segments in response to said packet testing; and retransmitting at least one of said segments in response to said packet testing from said first application layer without retransmitting from said first internet protocol layer.

20           12.    The communication protocol according to Claim 11, wherein said segment size is increased if said packet testing detects no packet errors in said digital data and said segment size is decreased if said packet testing detects a packet error in said digital data; wherein said segment size is changed between a low limit and a high limit; and wherein only said segments having packet errors are retransmitted and said segments having no packet errors are not retransmitted.

25           13.    The communication protocol according to Claim 12, in combination with transmitting and receiving said packets over a wireless link between said packetizing and said packet reassembling; and wherein said internet protocol layer is a user datagram protocol.

14. The communication protocol according to Claim 13, in combination with generating said digital data in a live mobile camera system, said digital data being a digitized picture of the visual surroundings around a mobile client.

5 15. The communication protocol according to Claim 1, further comprising testing said packets for errors; further comprising changing a size of said segments in response to said packet testing; and in combination with transmitting and receiving said packets over a wireless link between said packetizing and said packet reassembling.

10 16. The communication protocol according to Claim 15, wherein said internet protocol layer is a user datagram protocol.

15 17. A server cluster comprising a first tier and a second tier; said first tier comprising at least one server and said second tier comprising at least one server; said first tier managing said second tier; wherein said first tier receives a request for a communication link and sends said request to said second tier, said second tier thereby responding to said request.

20 18. A server cluster according to Claim 17, wherein said second tier comprises at least two servers.

25 19. The server cluster according to Claim 18, wherein each second tier server responds to said request and said communication link is established with the first second tier server to respond.

20. The server cluster according to Claim 17, wherein said first tier comprises at least two servers whereby each of said first tier servers manages at least two second tier servers.

25 21. The server cluster according to Claim 20, wherein one of said first tier servers reassigns one of said second tier servers managed by said reassigning first tier server to another of said first tier servers.

22. The server cluster according to Claim 21, wherein said reassignment comprises said reassigning first tier server sending a message requesting acceptance of said one of said second tier servers to said another of said first tier servers, said another of said first tier servers establishing management of said one of said second tier servers upon acceptance of said requesting message.

23. The server cluster according to Claim 20, wherein at least two of said first tier servers communicate with each other using an internet protocol, said at least two first tier servers being separate server networks.

24. The server cluster according to Claim 20, in combination with a requestor sending said request for said communication link, said requestor storing an identity of one of said first tier servers as a default server to send said request to.

25. The server cluster according to Claim 24, wherein said requestor updates stored identities of said first tier servers, said requestor selecting one of said first tier servers to send said request to.

26. The server cluster according to Claim 17, wherein said first tier communicates with said second tier using an internet protocol, said first tier and said second tier being separate server networks.

27. The server cluster according to Claim 26, wherein said at least two servers of said second tier are separate server networks.

28. The server cluster according to Claim 17, in combination with a wireless link, said wireless link being coupled to said requested communication link.

29. The server cluster according to Claim 17, in combination with a live mobile camera system comprising a mobile client with a camera, whereby said camera takes pictures of visual surroundings around said mobile client, said pictures being sent through said communication link.

30. The server cluster according to Claim 18, wherein each second tier server responds to said request and said communication link is established with the first second tier server to respond; wherein said first tier comprises at least two servers whereby each of said first tier servers manages at least two second tier servers; wherein one of said first tier servers reassigns one of said second tier servers managed by said reassigning first tier server to another of said first tier servers; wherein at least two of said first tier servers communicate with each other using an internet protocol, said at least two first tier servers being separate server networks; and wherein said first tier communicates with said second tier using an internet protocol, said first tier and said second tier being separate server networks.

31. The server cluster according to Claim 30, wherein said reassignment comprises said reassigning first tier server sending a message requesting acceptance of said one of said second tier servers to said another of said first tier servers, said another of said first tier servers establishing management of said one of said second tier servers upon acceptance of said requesting message; in combination with a requestor sending said request for said communication link, said requestor storing an identity of one of said first tier servers as a default server to send said request to; wherein said requestor updates stored identities of said first tier servers, said requestor selecting one of said first tier servers to send said request to; in combination with a wireless link, said wireless link being coupled to said requested communication link; and in combination with a live mobile camera system comprising a mobile client with a camera, whereby said camera takes pictures of visual surroundings around said mobile client, said pictures being sent through said communication link.

32. The server cluster according to Claim 18, wherein said first tier comprises at least two servers whereby each of said first tier servers manages at least two second tier servers; in combination with a requestor sending said request for said communication link, said requestor storing an identity of one of said first tier servers as a default server to send said request

to; wherein said requestor updates stored identities of said first tier servers, said requestor thereby selecting one of said first tier servers to send said request to; in combination with a wireless link, said wireless link being coupled to said requested communication link; and in combination with a live mobile camera system comprising a mobile client with a camera, whereby said camera takes pictures of visual surroundings around the mobile client, said pictures being sent through said communication link.

33. The server cluster according to Claim 32, wherein one of said first tier servers reassigns one of said second tier servers managed by said reassigning first tier server to another of said first tier servers; wherein said reassignment comprises said reassigning first tier server sending a message requesting acceptance of said one of said second tier servers to said another of said first tier servers, said another of said first tier servers establishing management of said one of said second tier servers upon acceptance of said requesting message; wherein at least two of said first tier servers communicate with each other using an internet protocol, said at least two first tier servers being separate server networks; in combination with a requestor sending said request for said communication link, said requestor storing an identity of one of said first tier servers as a default server to send said request to; wherein said requestor updates stored identities of said first tier servers, said requestor selecting one of said first tier servers to send said request to; wherein said first tier communicates with said second tier using an internet protocol, said first tier and said second tier being separate server networks.

34. A live mobile camera system comprising a mobile client with a camera generating realtime pictures of visual surroundings around said mobile client; a wireless link transmitting said pictures, wherein said pictures are transmitted over said wireless link according to a communication protocol comprising segmenting digital data into segments in a first application layer, packetizing said segments in a first internet protocol layer, reassembling said packets in a second internet protocol layer, and reassembling said segments in a second application layer; and a server cluster receiving said wireless link,

wherein said server cluster comprises a first tier and a second tier, said first tier comprising at least one server and said second tier comprising at least two servers, said first tier managing said second tier, wherein said first tier receives a request for a communication link and sends said request to said second tier, said second tier thereby responding to said request.

35. The communication protocol according to Claim 34, wherein said communication protocol further comprises testing said packets for errors, and changing a size of said segments in response to said packet testing, and wherein said internet protocol layer is a user datagram protocol.

36. The communication protocol according to Claim 35, wherein said segment size is increased if said packet testing detects no packet errors in said digital data and said segment size is decreased if said packet testing detects a packet error in said digital data, wherein said segment size is changed between a low limit and a high limit, and wherein said communication protocol further comprises retransmitting only said segments having packet errors without retransmitting said segments having no packet errors, and retransmitting at least one of said segments in response to said packet testing from said first application layer without retransmitting from said first internet protocol layer.

37. The server cluster according to Claim 34, wherein each second tier server responds to said request and said communication link is established with the first second tier server to respond, wherein said first tier comprises at least two servers whereby each of said first tier servers manages at least two second tier servers, and wherein said mobile client stores an identity of one of said first tier servers as a default server to send said request to.

38. The server cluster according to Claim 37, wherein one of said first tier servers reassigns one of said second tier servers managed by said reassigning first tier server to another of said first tier servers, wherein said

reassignment comprises said reassigning first tier server sending a message requesting acceptance of said one of said second tier servers to said another of said first tier servers, said another of said first tier servers establishing management of said one of said second tier servers upon acceptance of said requesting message, wherein at least two of said first tier servers communicate with each other using an internet protocol, said at least two first tier servers being separate server networks, wherein said mobile client updates stored identities of said first tier servers, said mobile client selecting one of said first tier servers to send said request to, and wherein said first tier communicates with said second tier using an internet protocol, said first tier and said second tier being separate server networks.

39. The communication protocol according to Claim 34, wherein said communication protocol further comprises testing said packets for errors, and changing a size of said segments in response to said packet testing, and wherein said internet protocol layer is a user datagram protocol, wherein each second tier server responds to said request and said communication link is established with the first second tier server to respond, wherein said first tier comprises at least two servers whereby each of said first tier servers manages at least two second tier servers, and wherein said mobile client stores an identity of one of said first tier servers as a default server to send said request to.

40. The communication protocol according to Claim 39, wherein said segment size is increased if said packet testing detects no packet errors in said digital data and said segment size is decreased if said packet testing detects a packet error in said digital data, wherein said segment size is changed between a low limit and a high limit, and wherein said communication protocol further comprises retransmitting only said segments having packet errors without retransmitting said segments having no packet errors, and retransmitting at least one of said segments in response to said packet testing from said first application layer without retransmitting from said first internet protocol layer, wherein one of said first tier servers reassigns one



of said second tier servers managed by said reassigning first tier server to another of said first tier servers, wherein said reassignment comprises said reassigning first tier server sending a message requesting acceptance of said one of said second tier servers to said another of said first tier servers, said another of said first tier servers establishing management of said one of said second tier servers upon acceptance of said requesting message, wherein at least two of said first tier servers communicate with each other using an internet protocol, said at least two first tier servers being separate server networks, wherein said mobile client updates stored identities of said first tier servers, said mobile client selecting one of said first tier servers to send said request to, and wherein said first tier communicates with said second tier using an internet protocol, said first tier and said second tier being separate server networks.

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